



# Draft Regional Forecasts for Three Divergent Futures

Horizon Webinar

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# Horizon Overview + Three Futures



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Principal Planner/Analyst



**The Horizon initiative is designed to identify strategies and investments to prepare the Bay Area for an uncertain future – to ensure we are resilient to ever-changing economic, political, technological, and environmental conditions.**

# Key Components of **Horizon**



**Outreach**



**Perspective  
Papers**

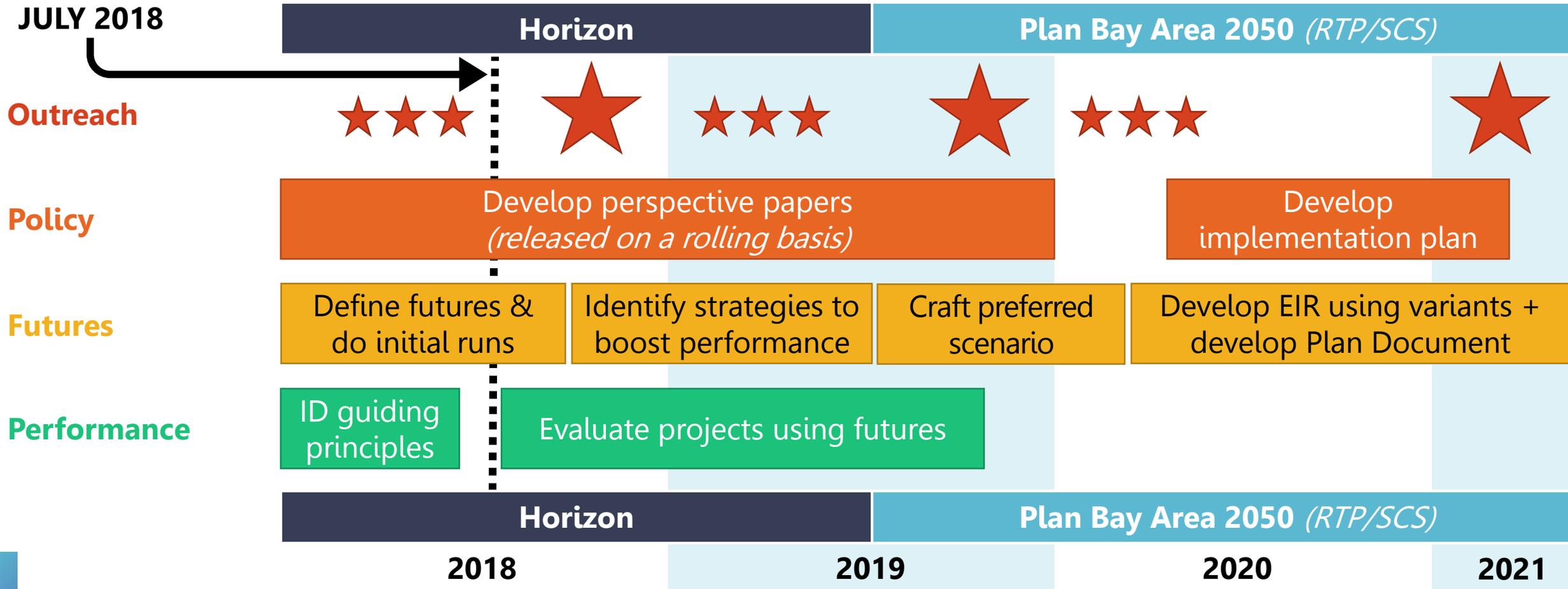


**Futures**



**Project  
Performance**

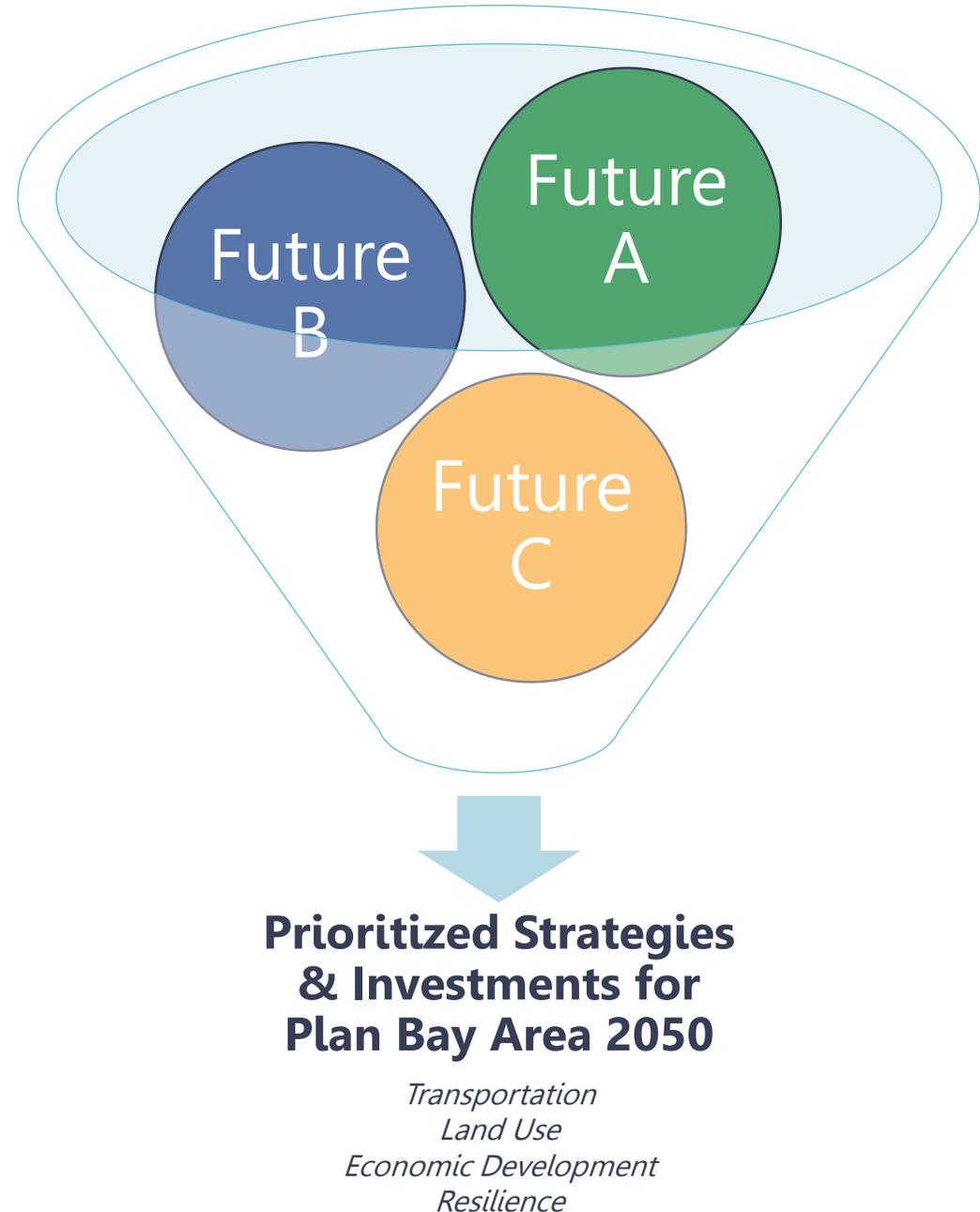
# Horizon + Plan Bay Area 2050 Overview



# Why Are We Creating Futures?

Creating a range of divergent futures will allow us to envision how the San Francisco Bay Area would respond to a wide range of external forces. The futures enable us to “stress test” policies and investments to ensure they are effective under a range of future conditions.

**However, this is not a traditional scenario planning process – none of the futures is likely to be selected as a “preferred”. Rather than selecting a “preferred scenario” from this process as in past plans, the strategies that perform best in multiple futures will be incorporated into Plan Bay Area 2050.**



# Overview Video: Proposed Futures



# Three Futures – “What If?” Scenarios

A



Clean  
and Green

**What if...** new technologies and a national carbon tax enabled greater telecommuting and distributed job centers?

B



Rising Tides,  
Falling  
Fortunes

**What if...** the federal government cuts spending and reduces regulations, leaving more policy decisions to states and regions?

C



Back to  
the Future

**What if...** an economic boom and new transportation options spur a new wave of development?



## NEW TECHNOLOGIES

**Clean and Green** and **Back to the Future** explore two very different potential outcomes of an automated future, while **Rising Tides, Falling Fortunes** considers what happens if new technologies fizzle.

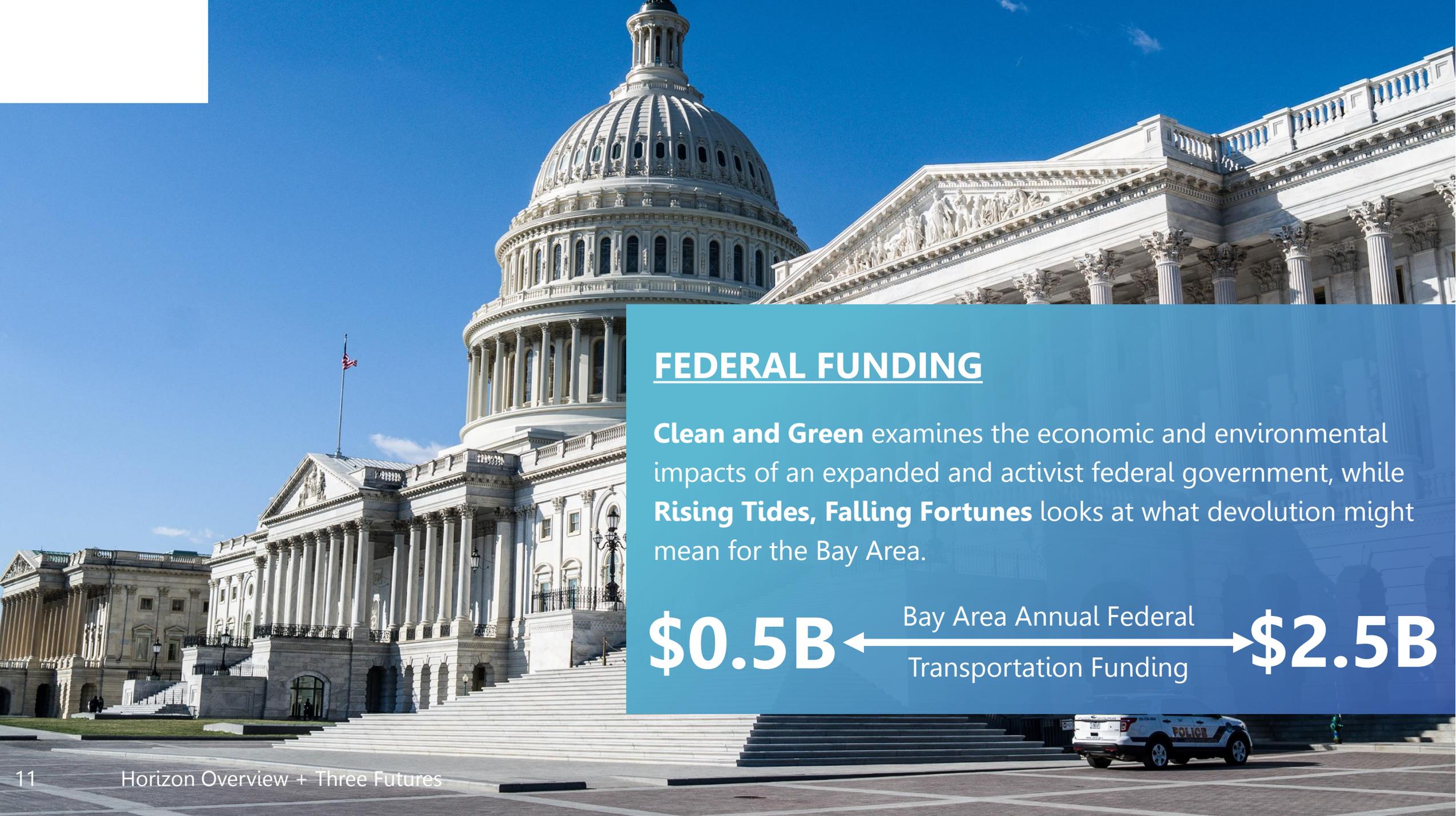




## CLIMATE CHANGE

Each of the futures explores different global outcomes, with **Clean and Green** envisioning a world where the goals of the Paris Climate Accord are met and **Rising Tides, Falling Fortunes** explores a worst-case scenario of climate impacts for 2050.

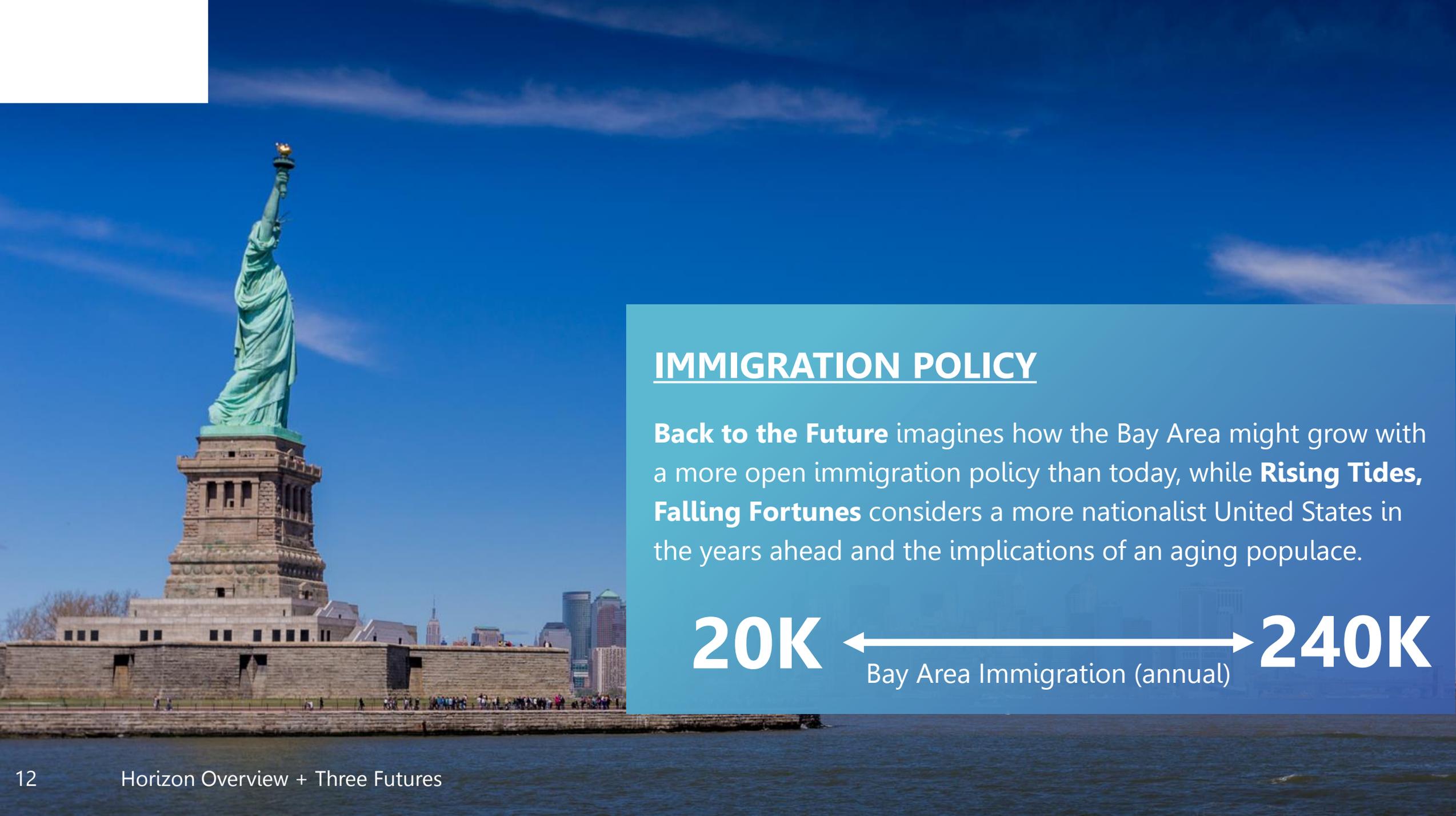
**1 ft** ←————→ **3 ft**  
Sea Level Rise



## FEDERAL FUNDING

**Clean and Green** examines the economic and environmental impacts of an expanded and activist federal government, while **Rising Tides, Falling Fortunes** looks at what devolution might mean for the Bay Area.

**\$0.5B** ← Bay Area Annual Federal Transportation Funding → **\$2.5B**



## IMMIGRATION POLICY

**Back to the Future** imagines how the Bay Area might grow with a more open immigration policy than today, while **Rising Tides, Falling Fortunes** considers a more nationalist United States in the years ahead and the implications of an aging populace.

20K ← Bay Area Immigration (annual) → 240K



Working with  
SJCOG &  
SACOG to  
estimate  
megaregional  
conditions

## MEGAREGIONAL SHIFTS

**Clean and Green** imagines how a carbon tax and new technologies might slow growth outside of the nine Bay Area counties, while **Back to the Future** looks at the emergence of an interconnected region with significant residential growth in Stockton, Sacramento and beyond.



# Summary: External Forces

#	FUTURE NAME	IMMIGRATION AND TRADE	NATIONAL TAXES AND FUNDING	NATIONAL GROWTH	LAND USE PREFERENCES	NATIONAL ENVIRONMENTAL POLICY	NEW TECHNOLOGIES	NATURAL DISASTERS
A	 <b>Clean and Green</b>	Similar to today	Higher funding via carbon tax	Similar to today	Housing: more <b>urban</b>	Stricter regulations (1' SLR)	Widespread	Magnitude 7.0 Hayward Fault earthquake
					Jobs: more <b>dispersed</b>			
B	 <b>Rising Tides, Falling Fortunes</b>	Reduced	Lower funding due to tax cuts	Limited	Housing: more <b>urban</b>	Relaxed regulations (3' SLR)	More limited	Magnitude 7.0 Hayward Fault earthquake
					Similar to today			
C	 <b>Back to the Future</b>	Increased	Similar to today	Rapid	Housing: more <b>dispersed</b>	Similar to today (2' SLR)	Widespread	Magnitude 7.0 Hayward Fault earthquake
					Jobs: more <b>urban</b>			

## COLOR LEGEND

Lower value



Higher value

# Turning Futures Into Numbers



**Cynthia Kroll, MTC/ABAG** – Assistant Planning Director

**Bobby Lu, MTC/ABAG** – Planner/Analyst

# Creating Futures from Ideas

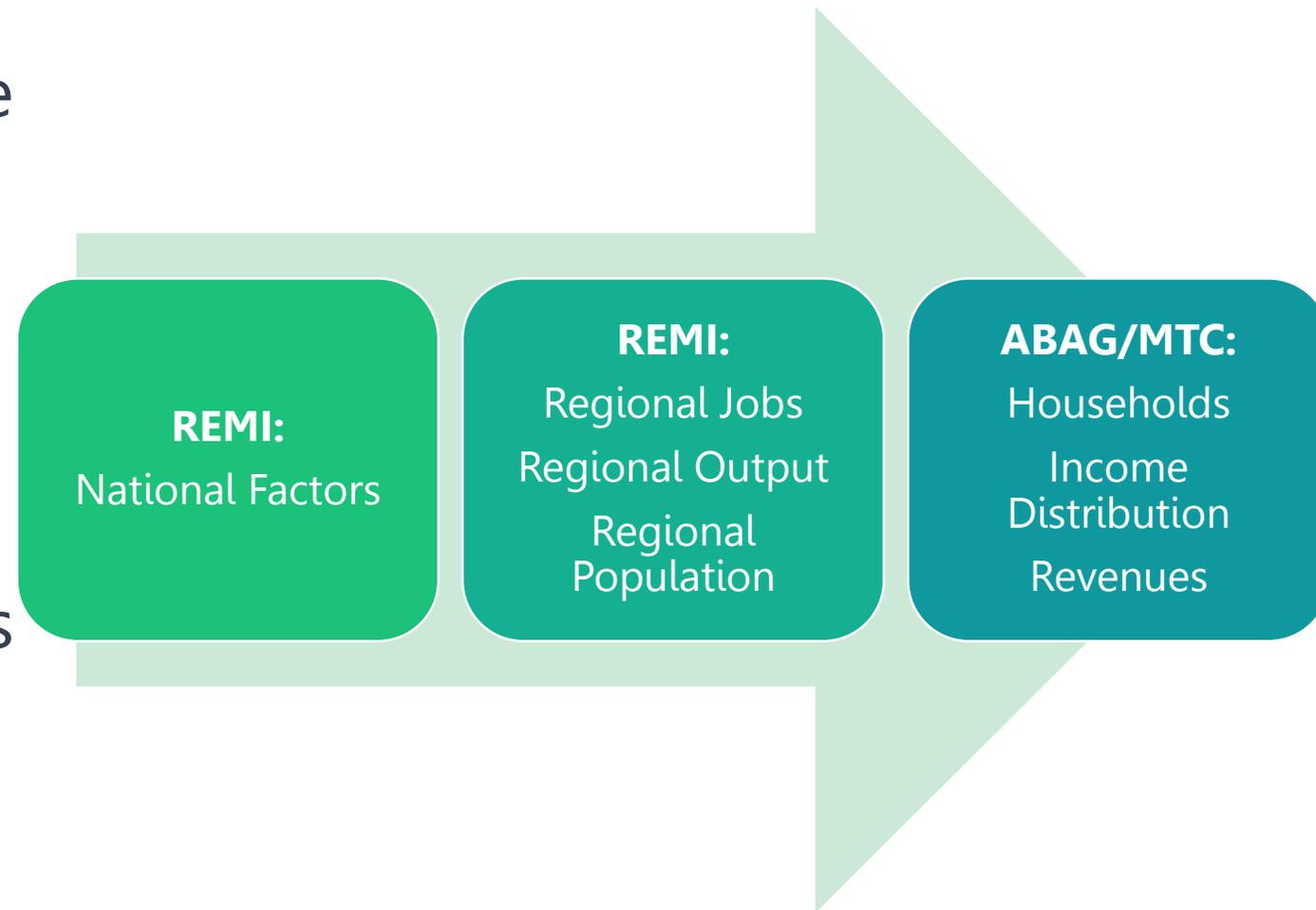
What might these external forces **mean for the Bay Area?**

How can we translate assumptions about global and national trends **into a picture of the region's future?**



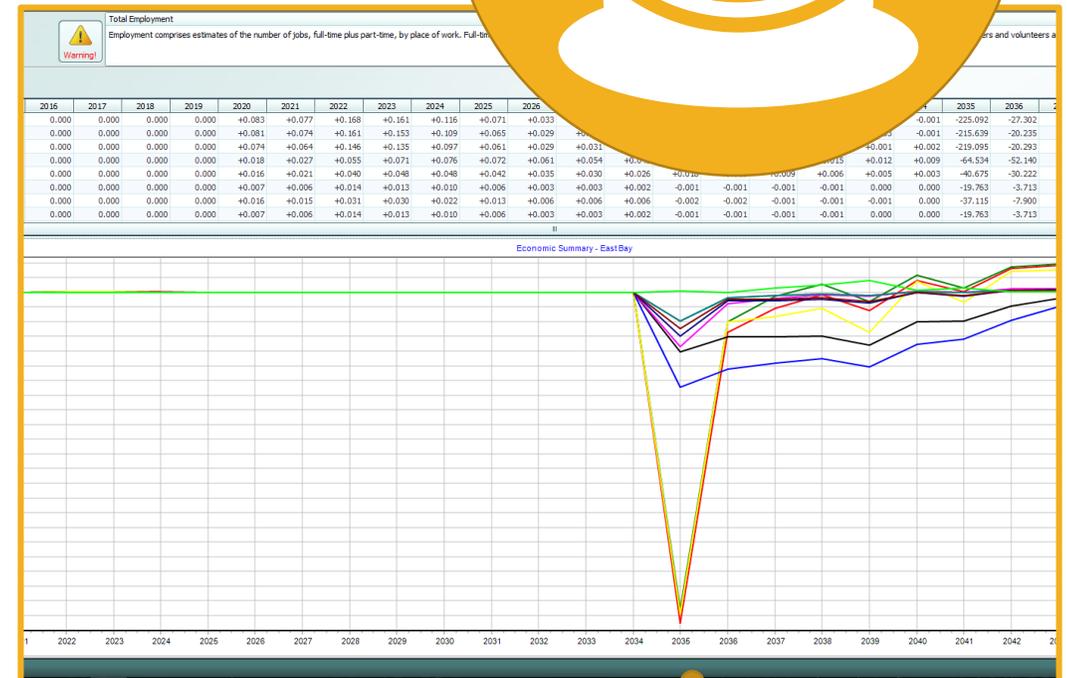
# Tools for Translating Ideas Into Futures

- **REMI:** a stylized model of the economy, from the present through 2050
- **Side-model analyses**
  - Household analysis
  - Income distribution analysis
  - Revenue forecasts  
*(separate approach)*



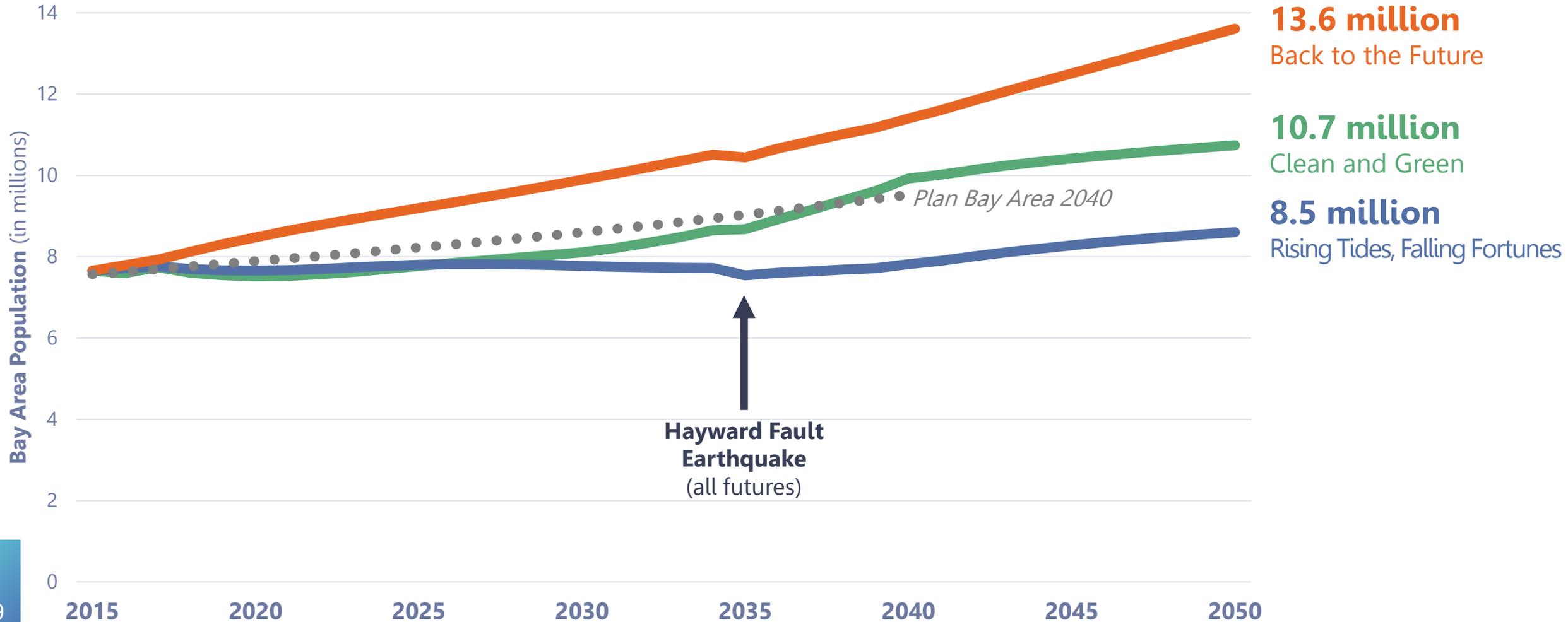
# Towards Useful Comparisons

- New assumptions change the “future”
  - National jobs, population, output
  - Regional jobs, population, output, total income
  - Households by income category
  - Revenues
- Handcrafting results
- Review & refinement through the month of July



*Economic forecasters assume everything except **responsibility***

# Futures: Bay Area Population *(draft)*



**13.6 million**  
Back to the Future

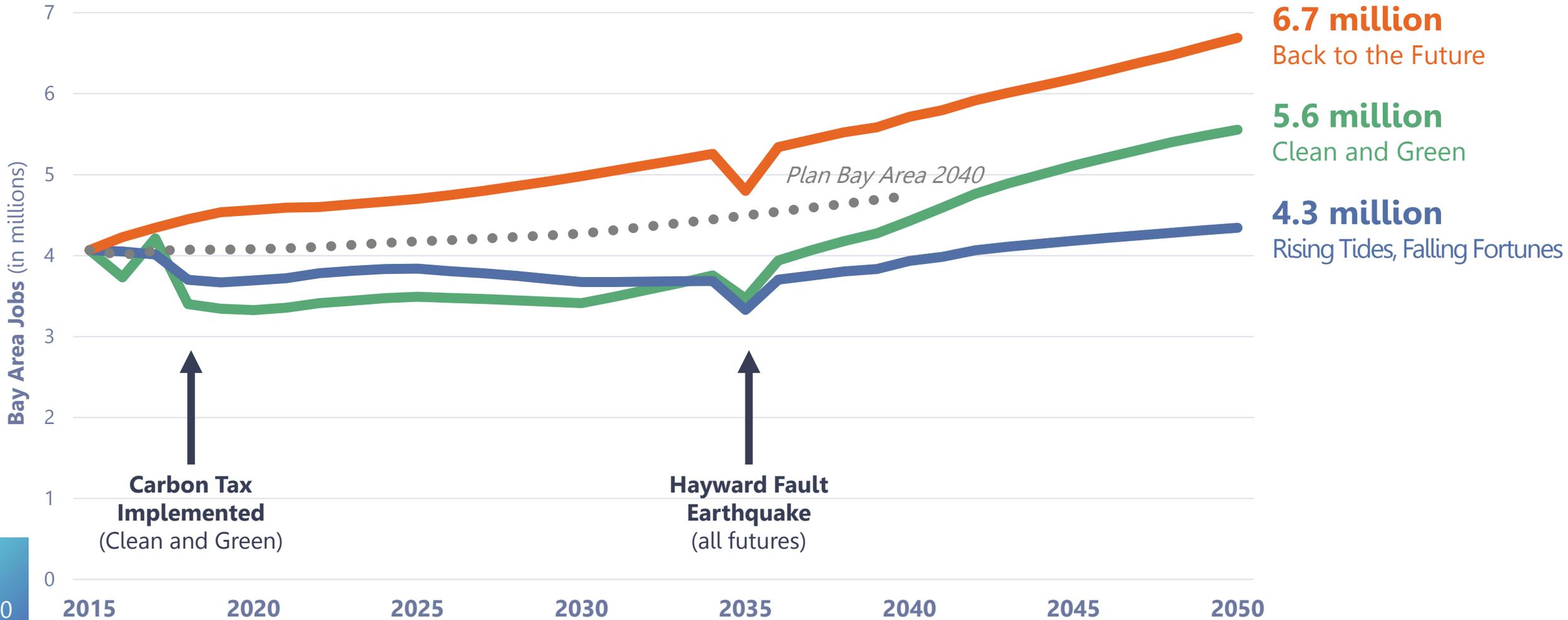
**10.7 million**  
Clean and Green

**8.5 million**  
Rising Tides, Falling Fortunes

Hayward Fault  
Earthquake  
(all futures)

*Plan Bay Area 2040*

# Futures: Bay Area Jobs *(draft)*



**6.7 million**  
Back to the Future

**5.6 million**  
Clean and Green

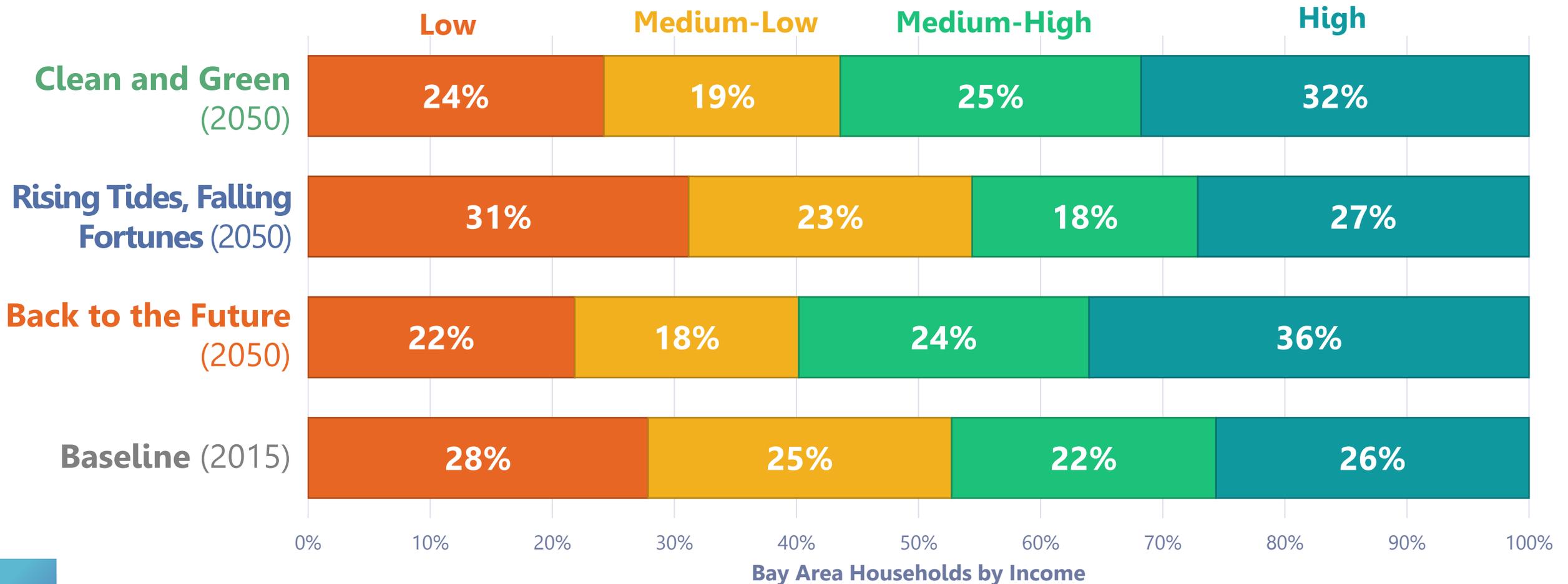
**4.3 million**  
Rising Tides, Falling Fortunes

*Plan Bay Area 2040*

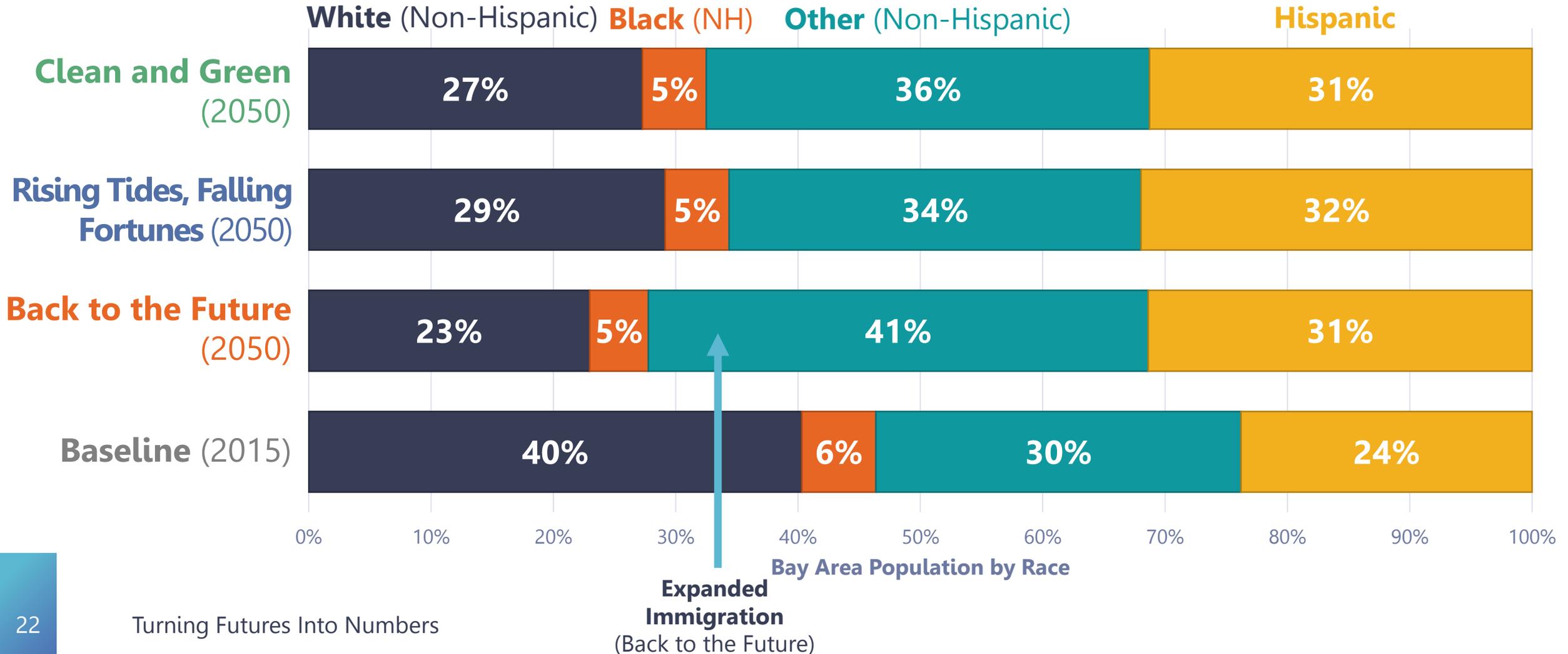
**Carbon Tax Implemented**  
(Clean and Green)

**Hayward Fault Earthquake**  
(all futures)

# Futures: Bay Area Household Incomes *(draft)*

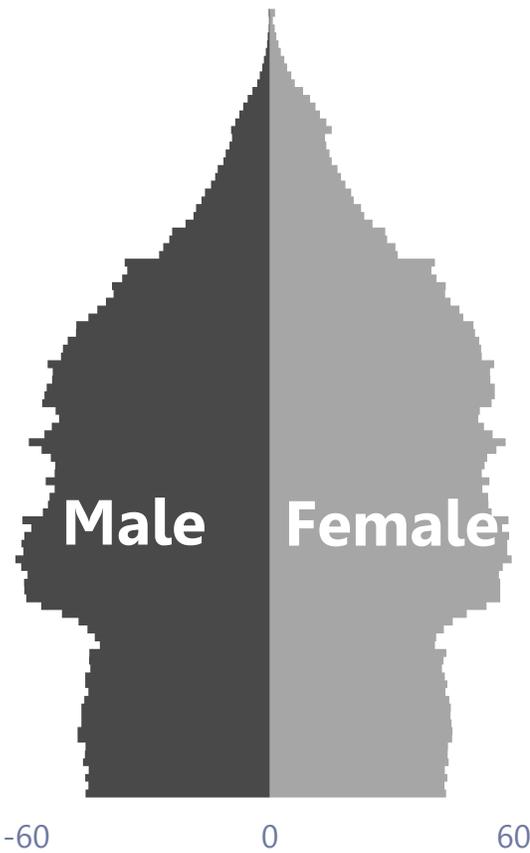


# Futures: Bay Area Population by Race *(draft)*

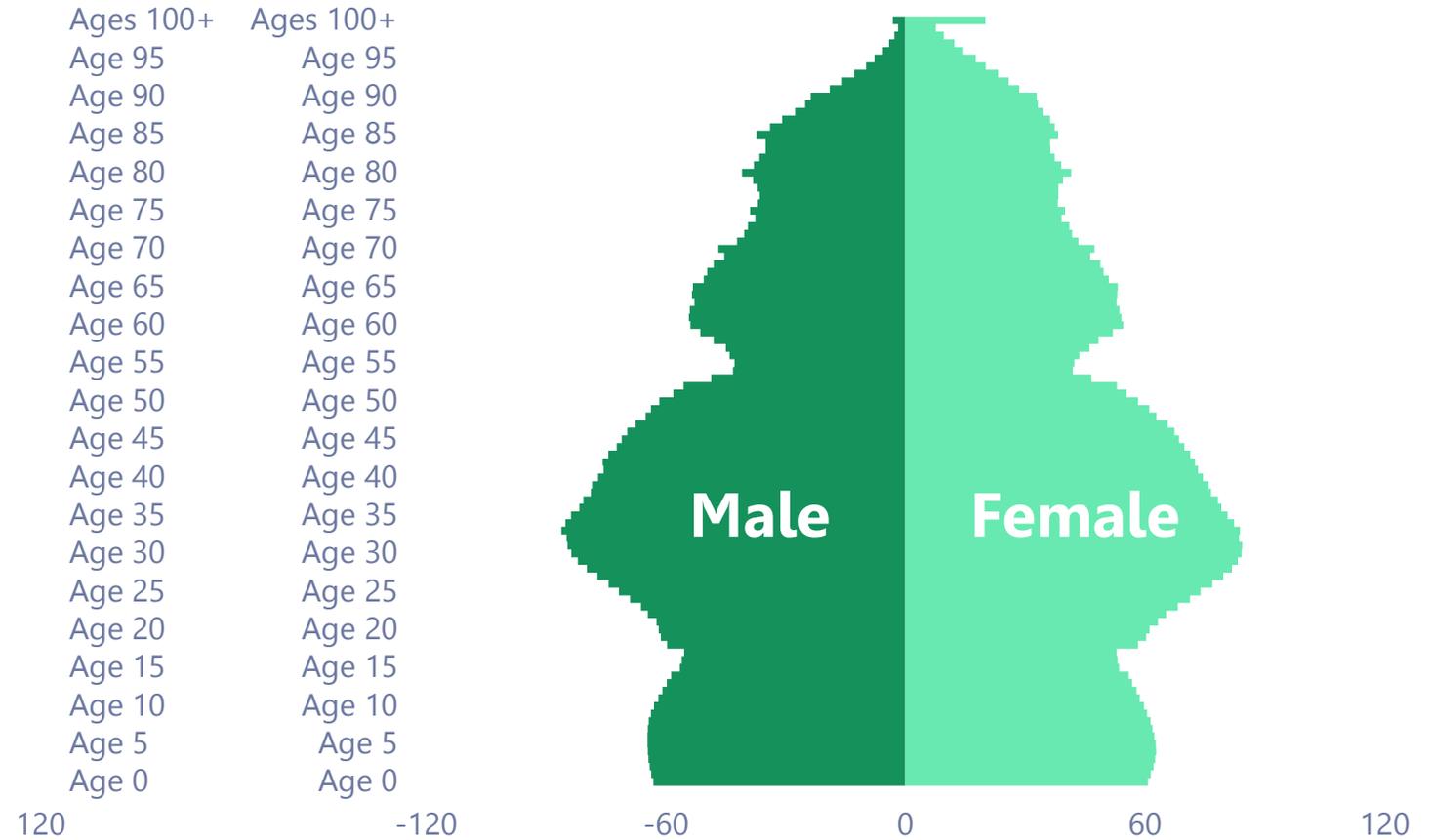


# Futures: Bay Area Population by Age *(draft)*

Baseline (2015)



Clean and Green (2050)



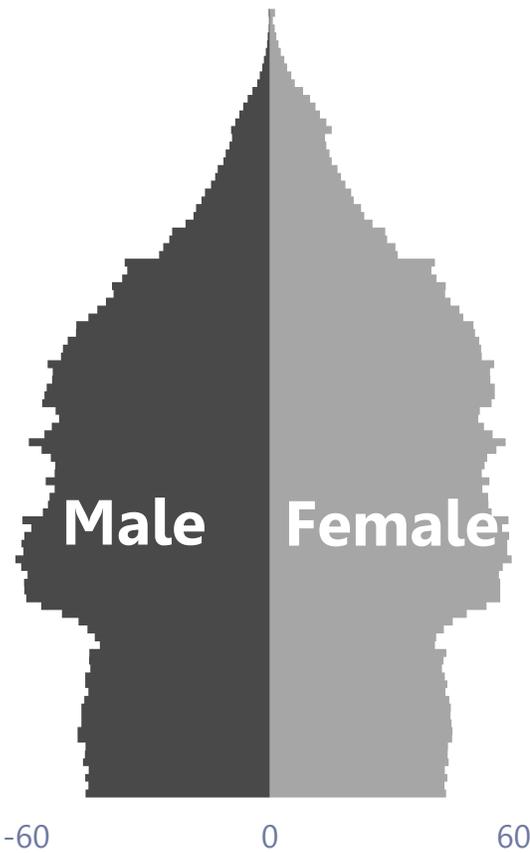
Ages 100+    Ages 100+  
Age 95        Age 95  
Age 90        Age 90  
Age 85        Age 85  
Age 80        Age 80  
Age 75        Age 75  
Age 70        Age 70  
Age 65        Age 65  
Age 60        Age 60  
Age 55        Age 55  
Age 50        Age 50  
Age 45        Age 45  
Age 40        Age 40  
Age 35        Age 35  
Age 30        Age 30  
Age 25        Age 25  
Age 20        Age 20  
Age 15        Age 15  
Age 10        Age 10  
Age 5         Age 5  
Age 0         Age 0

Bay Area Population by Age

Bay Area Population by Age

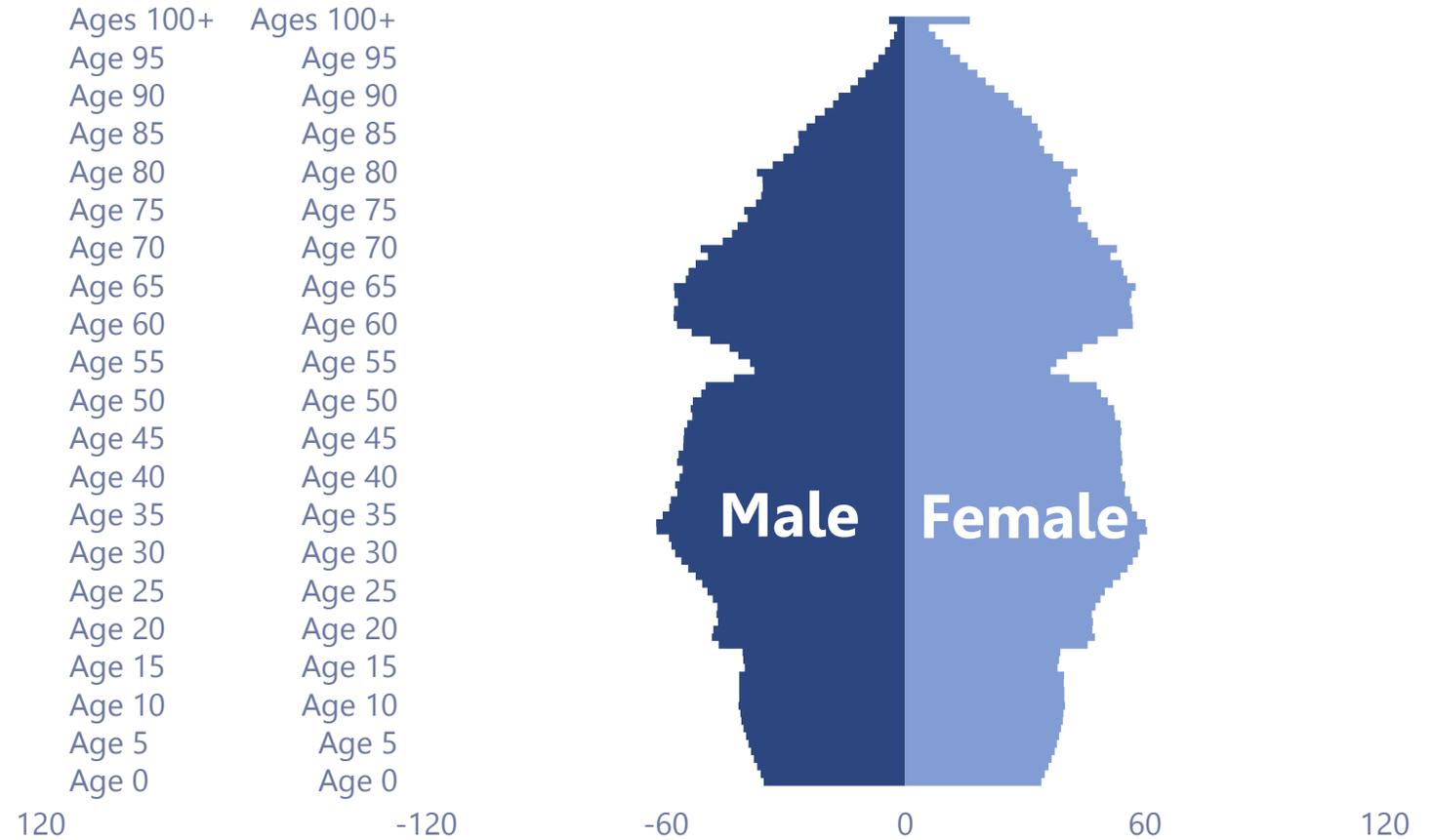
# Futures: Bay Area Population by Age *(draft)*

Baseline (2015)



Bay Area Population by Age

Rising Tides, Falling Fortunes (2050)

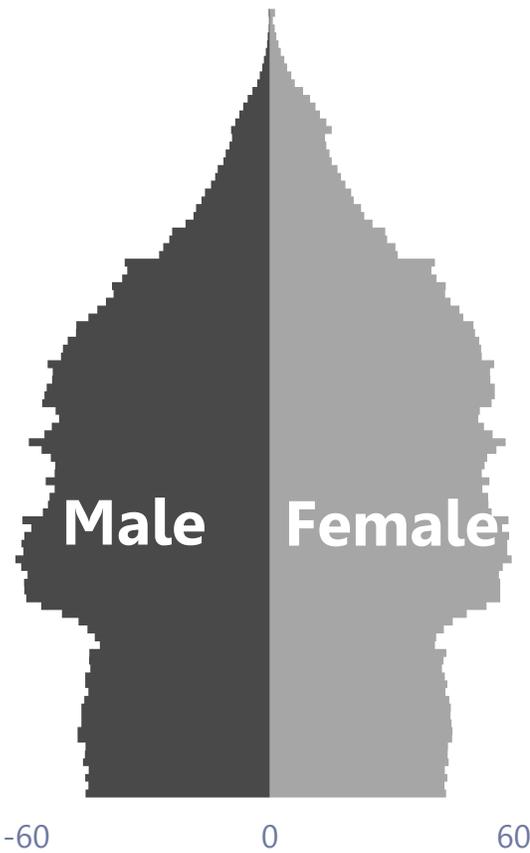


Bay Area Population by Age

- Ages 100+
- Age 95
- Age 90
- Age 85
- Age 80
- Age 75
- Age 70
- Age 65
- Age 60
- Age 55
- Age 50
- Age 45
- Age 40
- Age 35
- Age 30
- Age 25
- Age 20
- Age 15
- Age 10
- Age 5
- Age 0

# Futures: Bay Area Population by Age *(draft)*

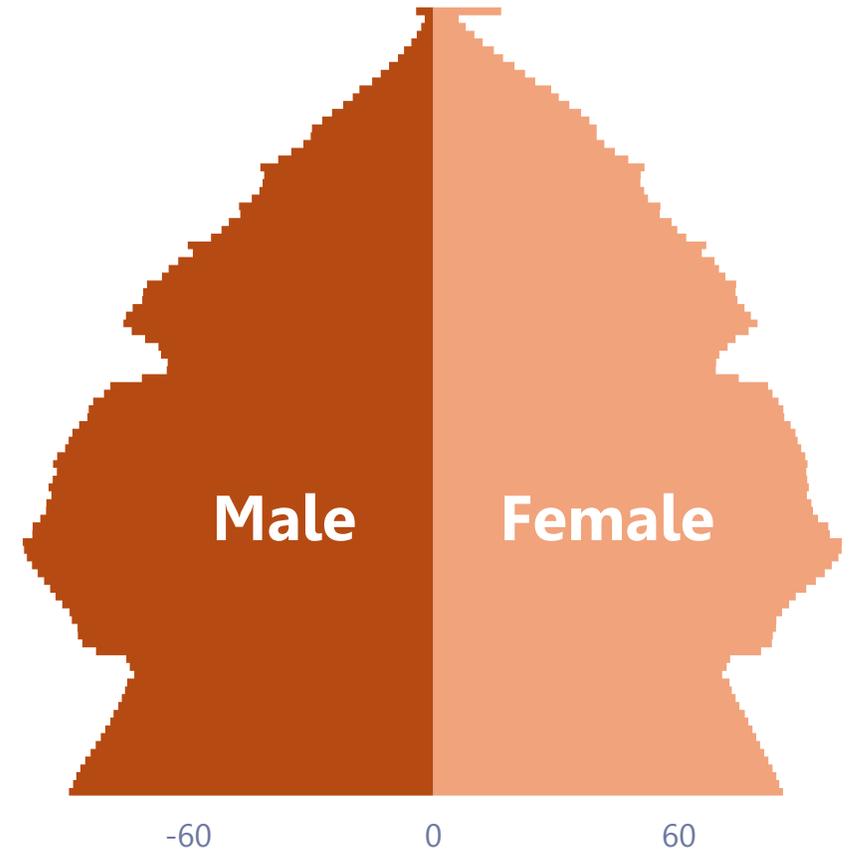
Baseline (2015)



Bay Area Population by Age

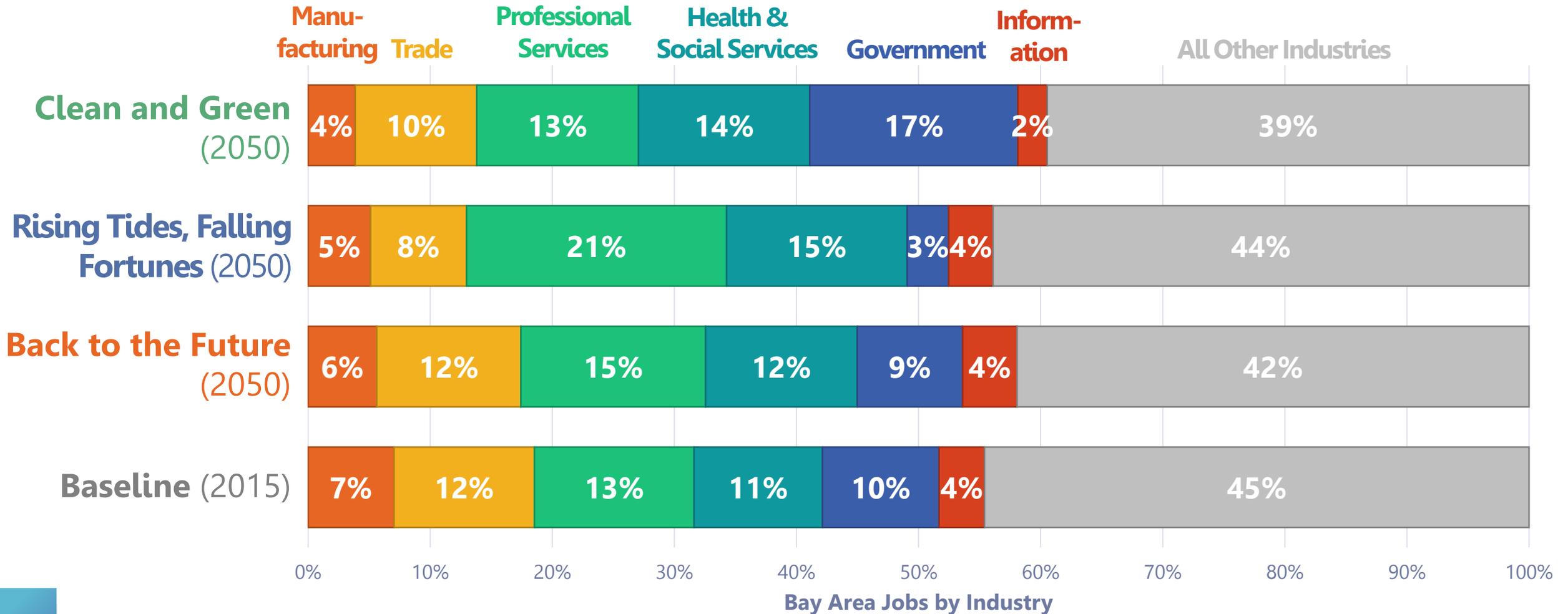
Back to the Future (2050)

- Ages 100+
- Age 95
- Age 90
- Age 85
- Age 80
- Age 75
- Age 70
- Age 65
- Age 60
- Age 55
- Age 50
- Age 45
- Age 40
- Age 35
- Age 30
- Age 25
- Age 20
- Age 15
- Age 10
- Age 5
- Age 0



Bay Area Population by Age

# Futures: Bay Area Jobs by Industry *(draft)*



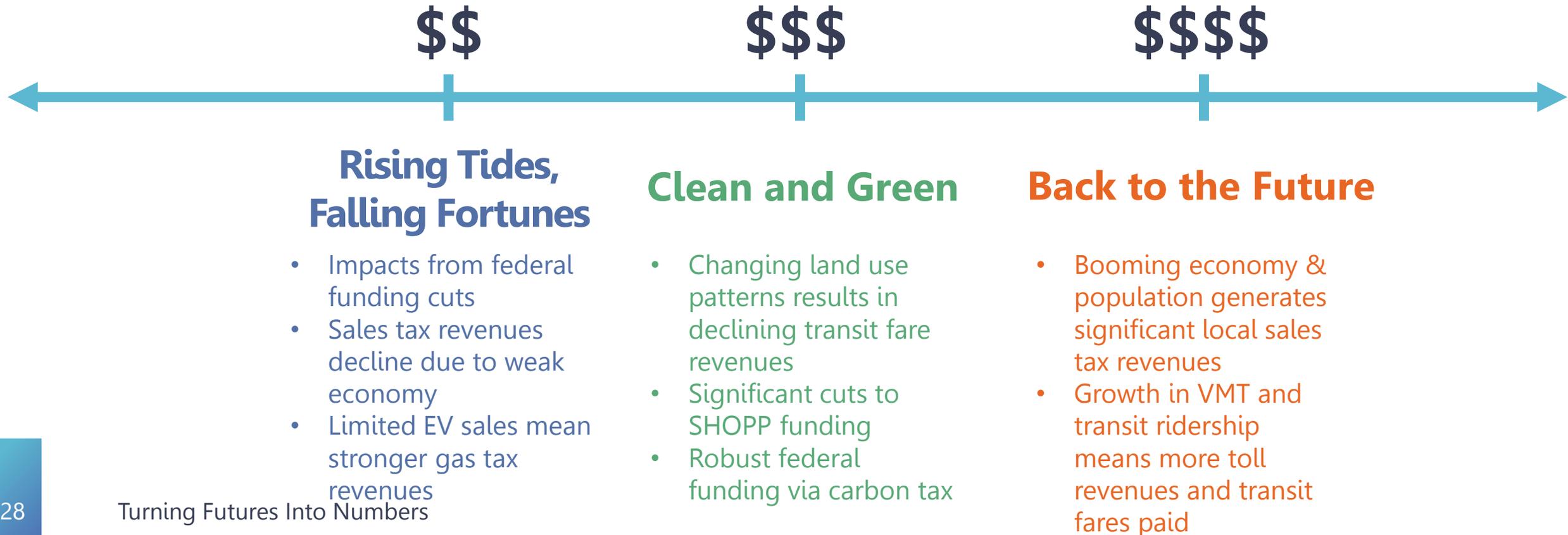
# Futures: Summary Table *(draft)*

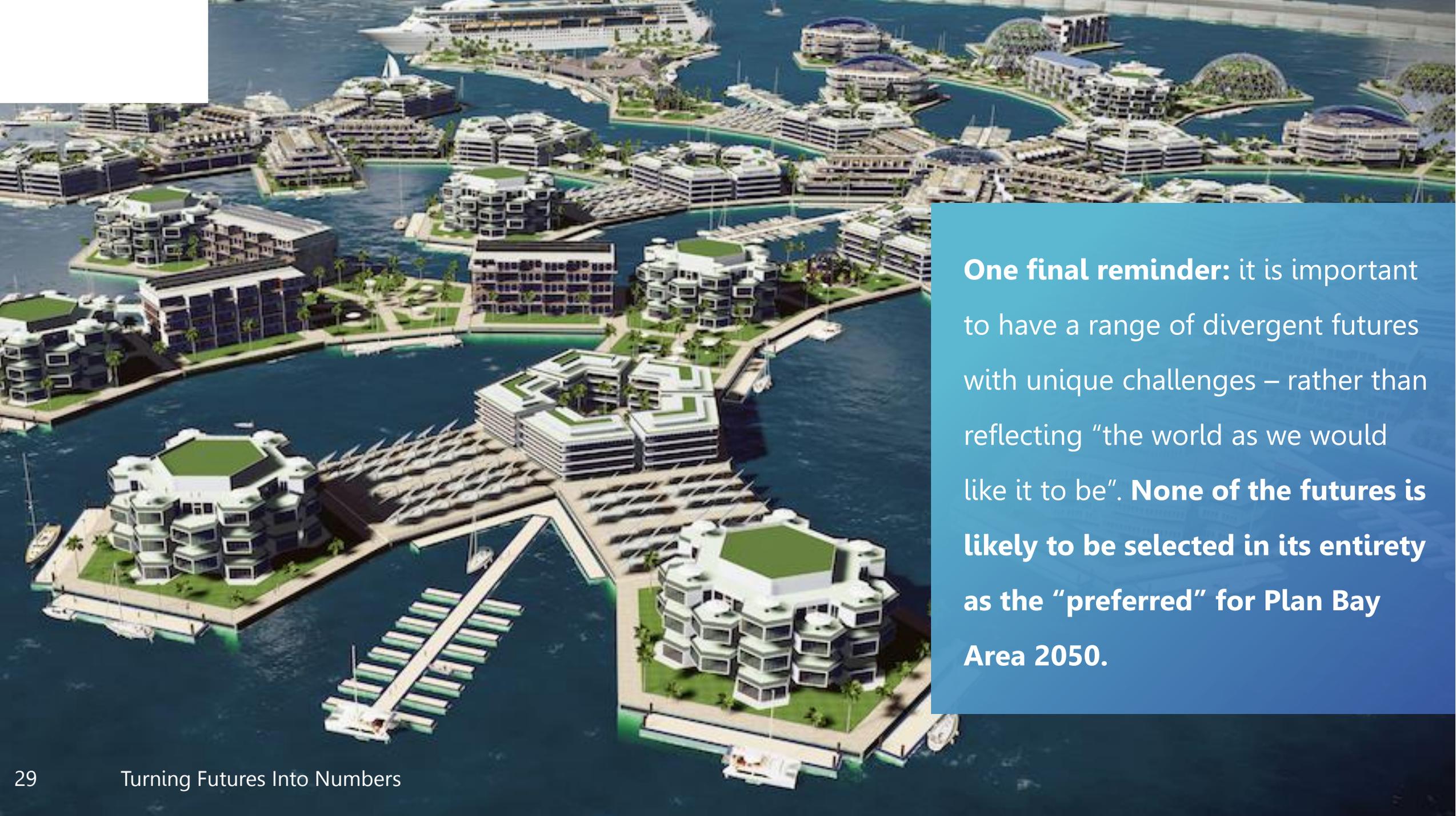
#	FUTURE NAME	2050 POPULATION	2050 JOBS	2050 INCOME DISTRIBUTION	2050 RACIAL DISTRIBUTION	2050 AGE DISTRIBUTION
A	 Clean and Green	10.7 million	5.5 million	24% low-income	73% minority	38 median age
B	 Rising Tides, Falling Fortunes	8.6 million	4.3 million	31% low-income	71% minority	43 median age
C	 Back to the Future	13.6 million	6.7 million	22% low-income	77% minority	38 median age

*Why do economists provide detailed forecasts out 30 years? To prove they have a sense of humor...*

# Futures: Bay Area Transport Revenues *(draft)*

Revenue forecasts for each future **will be finalized using travel & land use model outputs in September**, as revenues are driven by VMT, transit boardings, and other metrics forecasted by those models. Preliminary findings are shown below **for information purposes only**.



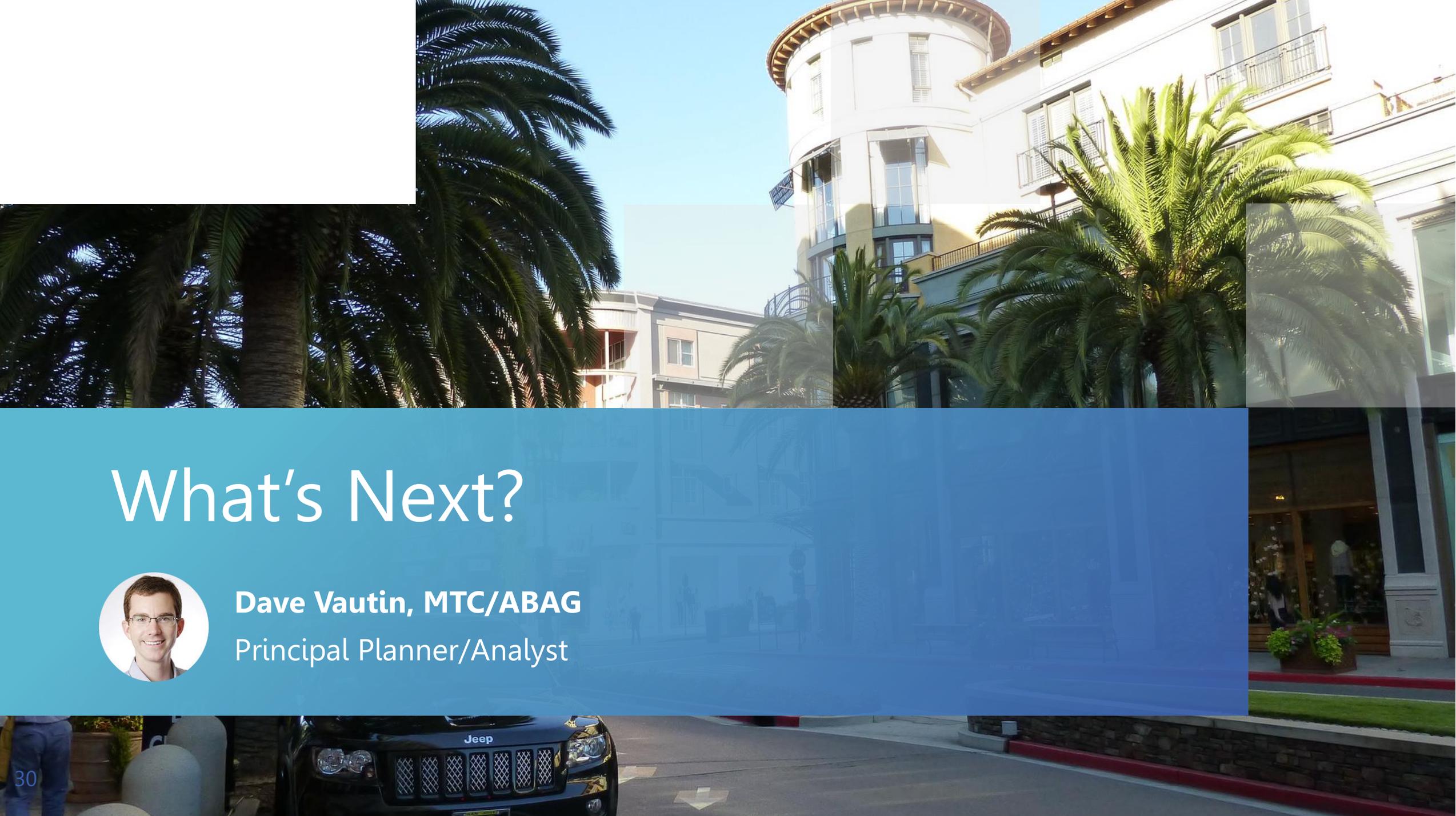


**One final reminder:** it is important to have a range of divergent futures with unique challenges – rather than reflecting “the world as we would like it to be”. **None of the futures is likely to be selected in its entirety as the “preferred” for Plan Bay Area 2050.**

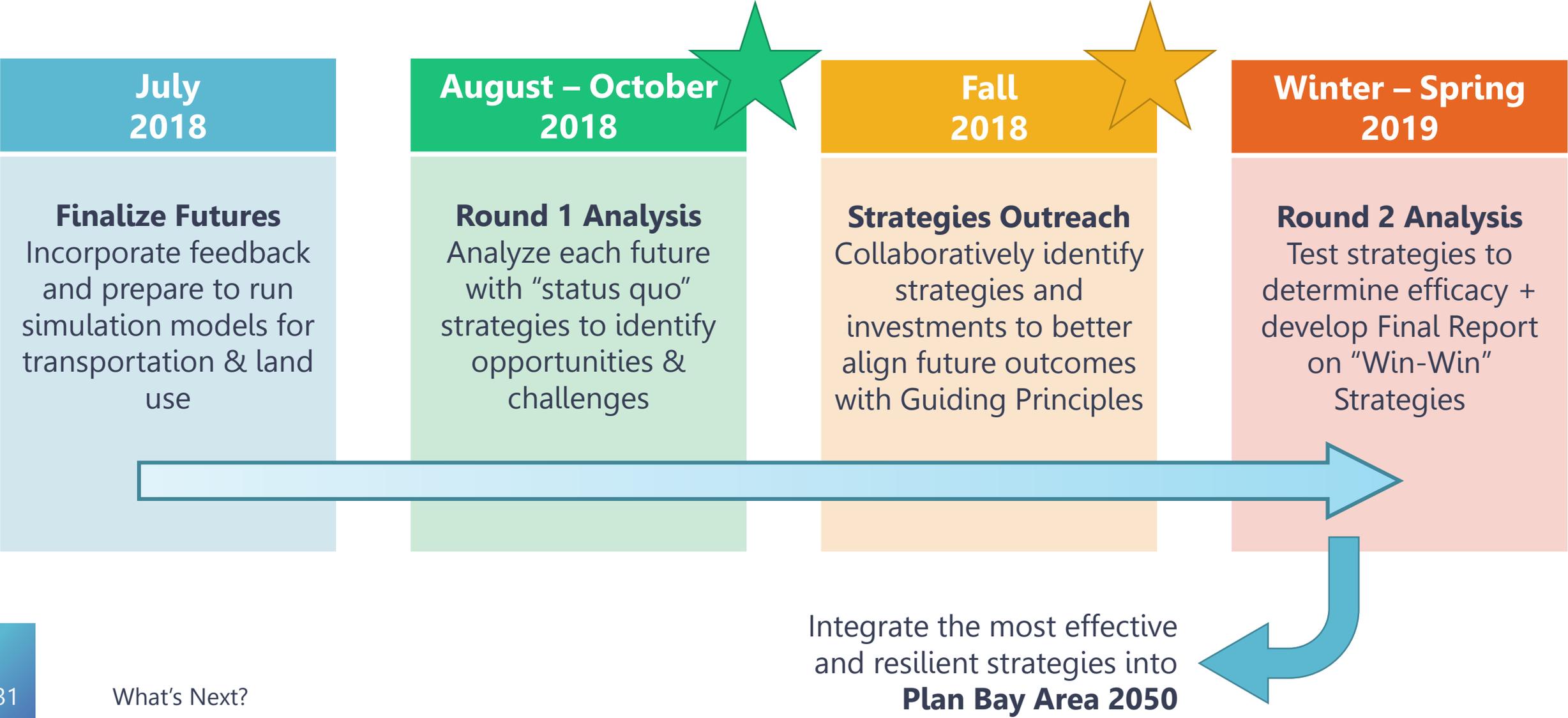
# What's Next?



**Dave Vautin, MTC/ABAG**  
Principal Planner/Analyst



# What's Next for the Futures in **Horizon**



# Round 1 Analysis of Futures (“Status Quo”)

**General Approach for Round 1 Analysis:** apply external forces & regional growth forecasts in models and assume that strategies & investments included in Plan Bay Area 2040 move forward

**Goal:** to identify and quantify opportunities and challenges in each future using Travel Model Two & UrbanSim 1.5



## UrbanSim 1.5

Generally assume land use strategies from Plan Bay Area 2040:

- Upzone select PDAs
- Keep UGBs in place
- Implement job caps & development fee
- Require 10% deed-restricted housing
- Etc.



## Travel Model Two

Generally assume major transportation investments from Plan Bay Area 2040:

- Fix It First
- Express Lanes/ITS
- Transit Modernization
- BART to Silicon Valley
- Caltrain DTX
- Etc.



What's Next?

# Strategies Outreach & Round 2 Analysis

- Later this fall, we will be conducting **public and stakeholder outreach** to determine which strategies and investments would be **most effective** in improving outcomes in each future.
- Strategies will need to address opportunities and challenges in each future related to:
  - **Transportation**
  - **Land Use/Housing**
  - **Economic Development**
  - **Resilience**
- **Round 2 Analysis** will involve studying how effective these strategies and investments are in aligning each future more closely with the Guiding Principles to identify “win-win” strategies resilient to changing circumstances.



Your ideas on how to structure this outreach cycle are welcome!

# The San Francisco Bay Area Aspires To Be:



## AFFORDABLE

All Bay Area residents and workers have sufficient housing options they can afford – households are economically secure.



## CONNECTED

An expanded, well-functioning transportation system connects the Bay Area – fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.



## DIVERSE

The Bay Area is an inclusive region where people from all backgrounds, abilities, and ages can remain in place – with access to the region's assets and resources.



## HEALTHY

The region's natural resources, open space, clean water and clean air are conserved – the region actively reduces its environmental footprint and protects residents from environmental impacts.



## VIBRANT

The Bay Area region is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.



**Questions?**  
**Comments?**